

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-23. (Cancelled)

24. (New) An optical semiconductor device comprising:

a first transistor connected to a first resistor;

a second transistor connected to a second resistor;

an optical semiconductor element having an anode and a cathode;

a first conductor line having a first end and a second end, the first end connected between the first transistor and the first resistor, and the second end connected to the anode of the optical semiconductor element; and

a second conductor line having a third end and a fourth end, the third end connected between the second transistor and the second resistor, and the fourth end connected to the cathode of the optical semiconductor element,

wherein one of the first and second conductor lines is configured to receive a positive-phase signal as an input signal, and the other one of the first and second conductor lines is configured to receive an antiphase signal as an input signal.

25. (New) The optical semiconductor device according to claim 24, wherein one side of the first resistor is connected at a ground potential, and one side of the second resistor is connected at the ground potential.

26. (New) The optical semiconductor device according to claim 25, wherein the first conductor line and the second conductor line include one of micro-strip lines and grounded coplanar lines.

27. (New) The optical semiconductor device according to claim 24, further comprising:

an input buffer configured to generate an adjusted positive-phase signal and an adjusted antiphase signal from a positive-phase signal and an antiphase signal, respectively,

wherein the input buffer is configured to input one of the adjusted positive-phase signal and the adjusted antiphase signal into the first transistor, and to input the other one of the adjusted positive-phase signal and the adjusted antiphase signal into the second transistor.

28. (New) The optical semiconductor device according to claim 24, wherein:

the first conductor line includes a first matching resistor between the first end and the second end of the first conductor line; and

the second conductor line includes a second matching resistor between the third end and the fourth end of the second conductor line.

29. (New) The optical semiconductor device according to claim 24, further comprising:

a first inductance element connected to the anode of the optical semiconductor element; and

a second inductance element connected to the cathode of the optical semiconductor element.

30. (New) The optical semiconductor device according to claim 29, wherein one end of the first inductance element is connected at a ground potential.

31. (New) The optical semiconductor device according to claim 30, further comprising:

a third resistor connected in parallel to the first inductance element; and

a fourth resistor connected in parallel to the second inductance element.

32. (New) The optical semiconductor device according to claim 24, further comprising:

a low pass filter provided on the first conductor line and the second conductor line.

33. (New) The optical semiconductor device according to claim 32, wherein the low pass filter includes a first conductor finger section and a second conductor finger section in which a plurality of conductors transverse to the first and the second conductor lines are formed, respectively, to have a comb shape, the first conductor finger section and the second conductor finger sections being alternately arranged.

34. (New) The optical semiconductor device according to claim 24, further comprising:

a package containing the first and the second conductor lines therein;

a lens that condenses light emitted from the optical semiconductor element;

and

an optical fiber holding member that holds an optical fiber.